Polyguard GFVE 3800

GLASSFLAKE NOVOLAC VINYL ESTER COATING

Product Description:

This is a two-component specialty coating made from vinyl ester, reinforced with glass flakes. It is resistant to chemicals and abrasion.

Typical Uses:

PolyGuard GFVE 3800 is specially designed for lining the interiors of chemical storage tanks and vessels that hold acidic chemicals or hot media. Its versatility allows for applications in the oil, gas, and chemical processing industries, as well as in pulp and paper plants. Additionally, it serves as an effective protective coating for structural steelwork in environments that are frequently exposed to corrosive chemicals.

Technical Properties:

Color / Shades	White, Black
Gloss	Semigloss
Volume Solids	100% Reactive
Mix ratio	100:2 by volume
Typical Thickness	400-600 microns [16-24 mils] dry equivalent to 471-706 microns [19-28 mils] wet
Coverage	2.10 m^2/litre at 400 microns DFT and 85% volume solids
Flash Point (Typical)	Part A: 32^{0}C (90^{0}F) Part B: 100°C (212°F) Mixed: 32^{0}C (90^{0}F)
VOC	10.0 lb/gal (1.2 kg/l) 35 g/kg
Reducer/Thinner	Not Recommended, **DO NOT THIN**
Cleaner	Thinner 1853

Drying Time

Temperature		**10°C** [50°F]	**15°C** [59^{0}F]	**25°C** [77^{0}F]	**35°C** [95^{0}F]
Touch Dry		5 Hour	4 Hour	4 Hour	4 Hour
Hard Dry		6 Hour	5 Hour	5 Hour	5 Hour
Recoat	Min	6 Hour	5 Hour	5 Hour	5 Hour
	Max	3 Days	3 Days	2 Days	24 Hour
Pot Life		1 Hour	1 Hour	40 Mins	40 Mins

The drying times listed were determined using the recommended retarder amount for each temperature.

Surface Preparation:

Ensure that all surfaces intended for coating are thoroughly cleaned, dried, and free of any contaminants. Before applying paint, evaluate and treat all surfaces according to the guidelines outlined in ISO 8504:2000. Remove any oil or grease using the solvent cleaning method specified in SSPC-SP1.

Steel Substrates: Abrasive blast cleaning must conform to either SSPC SP10 or Sa2½ (ISO 8501-1:2007) standards. If oxidation occurs between the blasting and the application of PolyGuard GFVE 3800, the surface must be re-blasted to meet the specified visual standards. Address any surface defects revealed during blast cleaning by grinding, filling, or treating as necessary, aiming for a sharp, angular surface profile of 3-4 mils (75-100 microns). PolyGuard GFVE 3800 can be applied over other primers after abrading and washing the surface with water, ensuring that the blast standard is maintained through

dehumidification. If a holding primer is required, consult TRPL's technical team for compatibility recommendations. Alternatively, dehumidification can help preserve the blast standard.

Shop Primed Steel: Before applying PolyGuard GFVE 3800, all shop-primed steelwork must be re-blasted to meet the visual standards mentioned above.

Concrete Substrates: Before applying the flooring, lining, or coating system, ensure that the concrete has been thoroughly cured. For detailed guidance, refer to the Concrete Surface Preparation Guidelines.

Application

Application Method	Thinning	
Airless Spray	**NA**	**Recommended** **Tip:** Range 25-35 thou (0.63-0.89 mm) Total output fluid pressure at spray tip not less than 3000 psi (211 kg/cm²)
Air Spray	NA	**Not Recommended**
Brush	**NA**	**Suitable:** Small areas only Typically 3.0 mils (75 microns) can be achieved
Roller	**NA**	**Not Recommended**

Application

For brush application, use nylon or polyester bristles. A 3/8" woven roller cover with a solvent-resistant core should be used for roller application.

Note:

- Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed, it must be used within the working pot life specified.
- Agitate Base (Part A) with a power agitator.
- Combine the entire contents of the Curing Agent (Part B) with Base (Part A) and mix thoroughly with the power agitator.
- An optional retarder solution is available for this material. (See Product Characteristics for details.)

Application Guidelines

Before using PolyGuard GFVE 3800, please consult the detailed application guidelines.

Storage Conditions:

- Elevated storage temperatures can reduce shelf life.
- Uncatalyzed PolyGuard GFVE 3800 is stable for 6 months from the date of manufacture when stored below 20°C [68°F] in its original sealed containers.
- It should never be stored in direct sunlight.
- To prolong shelf life and ensure a 1-hour pot life during airless spray application, it is recommended to keep material temperatures as low as possible, including refrigeration if necessary.
- The ideal storage temperature range is 8°C-19°C [46°F-66°F]

Application Information:

- Although PolyGuard GFVE 3800 is 100% reactive, practical volume solids may vary based on application conditions. TRPL's Protective Coatings suggest using a value of 85% for estimating the spreading rate.
- Apply using airless spray only. Other application methods, such as brush or roller, may require multiple coats and are suggested only for small areas or initial stripe coating.

- This product must not be thinned, as thinners may severely hinder the curing mechanism of the coating.
- Surface temperatures must be at least 3°C [5°F] above the dew point.
- The maximum steel temperature during application is 60°C [140°F], and relative humidity should not exceed 80% during application and curing.

Coating Specifications:

- A minimum of 2 coats at 400 microns [16 mils] per coat is recommended for a total dry film thickness of at least 800 microns [32 mils] to achieve optimal performance. However, alternative specifications may be considered for certain applications.

Climatic Conditions:

- PolyGuard GFVE 3800 can be applied in various climatic conditions, including material temperatures up to 35°C [95°F].
- When material temperatures exceed 25°C [77°F], a retarder solution is required to maintain working pot life for normal airless spray methods. The recommended levels of retarder solution are:
    - Below 25°C [77°F]: No retarder required
    - 25-35°C [77-95°F]: 1 unit of retarder (R25) is required.

Mixing Instructions:

- Always add the retarder solution to the base before adding the initiator, and mix thoroughly using a power agitator.
- For consistently high material temperatures (greater than 35°C or 95°F), refrigeration is recommended. Consult TRPL's Protective Coatings for specific guidance.

Curing Requirements:

- This product will not cure adequately at temperatures below 5°C [41°F]. For optimal performance, ambient curing temperatures should be above 15°C [59°F].
- The maximum continuous dry temperature resistance for PolyGuard GFVE 3800 is 130°C [266°F], while the maximum temperature in immersed conditions is 90°C [194°F].

Consult TRPL's Protective Coatings for specific cargoes' temperature limits.

Application Notes

- PolyGuard GFVE 3800 is not designed to be used as a cosmetic finish, and its color stability cannot be guaranteed.
- For storing inorganic or organic acids, please refer to TRPL's Protective Coatings for guidance on cargo compatibility, appropriate painting schemes, and procedures.
- When surface temperatures exceed 35°C (95°F) or when exposed to direct sunlight, PolyGuard GFVE 3800 should be overcoated as soon as it has hardened to prevent inter-coat adhesion issues.

Please note that VOC values are typical and provided for guidance only; they may vary due to color differences and normal manufacturing tolerances.

Recommended Systems

PolyGuard GFVE 3800 should be applied to correctly prepared substrates. However, it is suitable for application to the following primers: PolyGuard GFVE Primer 3755

PolyGuard GFVE 3800 should only be overcoated with itself.

For additional information, consult TRPL's Protective Coatings. Consult TRPL's Protective Coatings to confirm that PolyGuard GFVE 3800 is suitable for contact with the product to be stored.

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Safety Precautions

- This product is intended solely for use by professional applicators in industrial settings and must comply with national health, safety, and environmental regulations.
- Ensure proper ventilation during application and drying (refer to product datasheets for drying times) to maintain safe solvent levels and prevent fire hazards. In confined spaces, forced extraction ventilation is necessary. Always use appropriate personal protective equipment, such as air-fed hoods or cartridge masks, along with overalls, gloves, goggles, and barrier cream to prevent skin and eye contact.
- Before use, review the Material Safety Data Sheets (MSDS) for both the Base and Curing Agent and the Health and Safety section of the Coatings Applications Procedures.
- If welding or flame cutting occurs on coated metal, use personal protective equipment and ensure local exhaust ventilation to manage dust and fumes.
- If you do not understand these instructions or cannot follow them, do not use the product and consult TRPL's Protective Coatings for assistance.

Pack Size

Unit Size	Part A		Part B	
	Vol	Pack	Vol	Pack
20 Liters	19.6 Liter	20 Liter	0.4 Liter	0.5 Liter
4 Liters	3.92 Liter	20 Liter	80 ml	100 ml

The optional retarder solution is available as 50ml in a 100ml container. For availability of other pack sizes contact TRPL's Protective Coatings

Storage

Shelf Life: 6 Months minimum at <20°C [680F] in sealed condition, subject to reinspection thereafter.

Storage Conditions: Store in dry shaded conditions, away from sources of heat & ignition. During storage & shipment, the Polyguard GFVE 3800 initiator must not be exposed to temperatures exceeding 300C (900F). Refrigeration recommended. The best practice would be to hold Parts A and B in separate stores.

Safety: Handle with care. Before & during use, observe all safety labels on packaging and paint containers, consult Material Safety Data Sheets, and follow all local or national safety regulations. Avoid inhalation, avoid contact with skin & eyes, and do not swallow. Take precautions against possible risks of fire or explosions as well as protection of the environment. Apply only in well-ventilated areas.

Disclaimer: The information in this document is given to the best of TRPL's knowledge, based on laboratory testing & practical experience. TRPL products are considered semi-finished goods, as such products are often used beyond TRPL's control. TRPL can not guarantee anything but the quality of the product itself. Minor product variations may be implemented to comply with local requirements. TRPL reserves the right to change the given data without further notice. User should always consult TRPL for specific guidance on the general suitability of the product for their needs and specific application practices.